



Introduction to Data Science With Bitcoin Price Predictor

Understand the data science concepts with a real world example



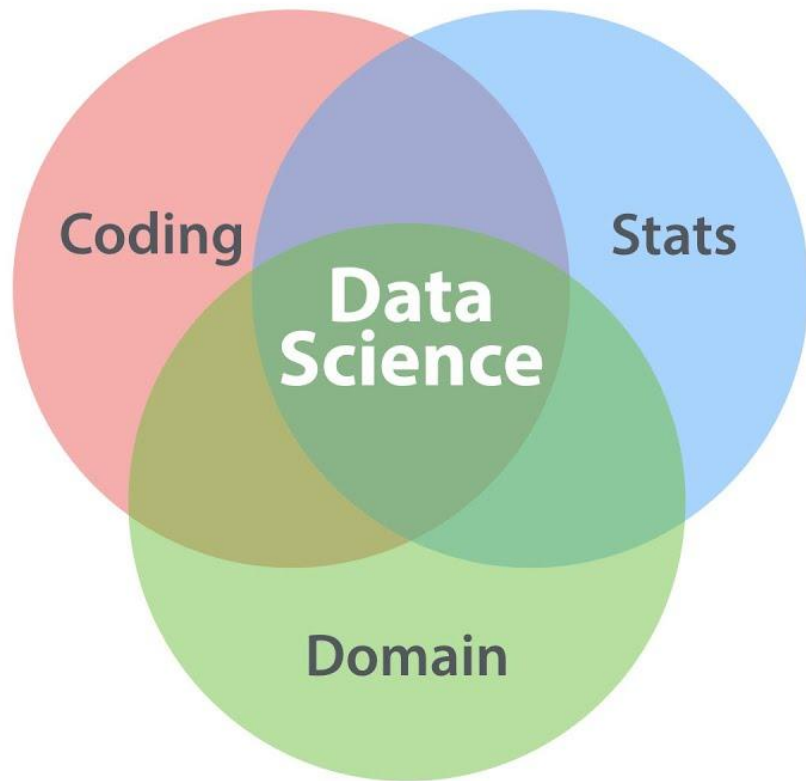
Presented by – Sudalai Rajkumar @ SRK, Data Scientist

Agenda



- Introduction to Data Science
- Data Science Project Flow
- Example – Bitcoin price prediction
- Questions

What is Data Science?



MATH & STATISTICS

- ☆ Machine learning
- ☆ Statistical modeling
- ☆ Experiment design
- ☆ Bayesian inference
- ☆ Supervised learning: decision trees, random forests, logistic regression
- ☆ Unsupervised learning: clustering, dimensionality reduction
- ☆ Optimization: gradient descent and variants

DOMAIN KNOWLEDGE & SOFT SKILLS

- ☆ Passionate about the business
- ☆ Curious about data
- ☆ Influence without authority
- ☆ Hacker mindset
- ☆ Problem solver
- ☆ Strategic, proactive, creative, innovative and collaborative

PROGRAMMING & DATABASE

- ☆ Computer science fundamentals
- ☆ Scripting language e.g. Python
- ☆ Statistical computing package e.g. R
- ☆ Databases SQL and NoSQL
- ☆ Relational algebra
- ☆ Parallel databases and parallel query processing
- ☆ MapReduce concepts
- ☆ Hadoop and Hive/Pig
- ☆ Custom reducers
- ☆ Experience with xaaS like AWS

COMMUNICATION & VISUALIZATION

- ☆ Able to engage with senior management
- ☆ Story telling skills
- ☆ Translate data-driven insights into decisions and actions
- ☆ Visual art design
- ☆ R packages like ggplot or lattice
- ☆ Knowledge of any of visualization tools e.g. Flare, D3.js, Tableau



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Marketing
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Programming Vs Data Science



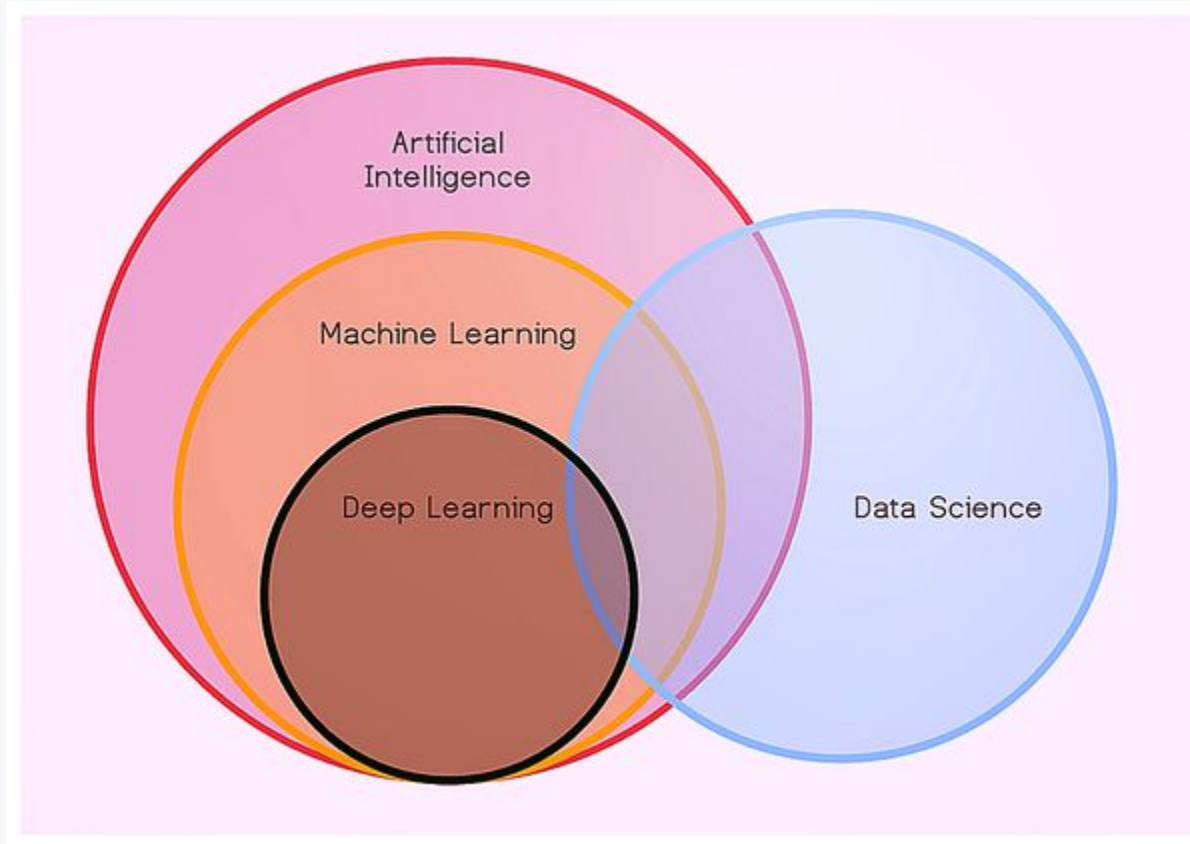
Traditional Programming



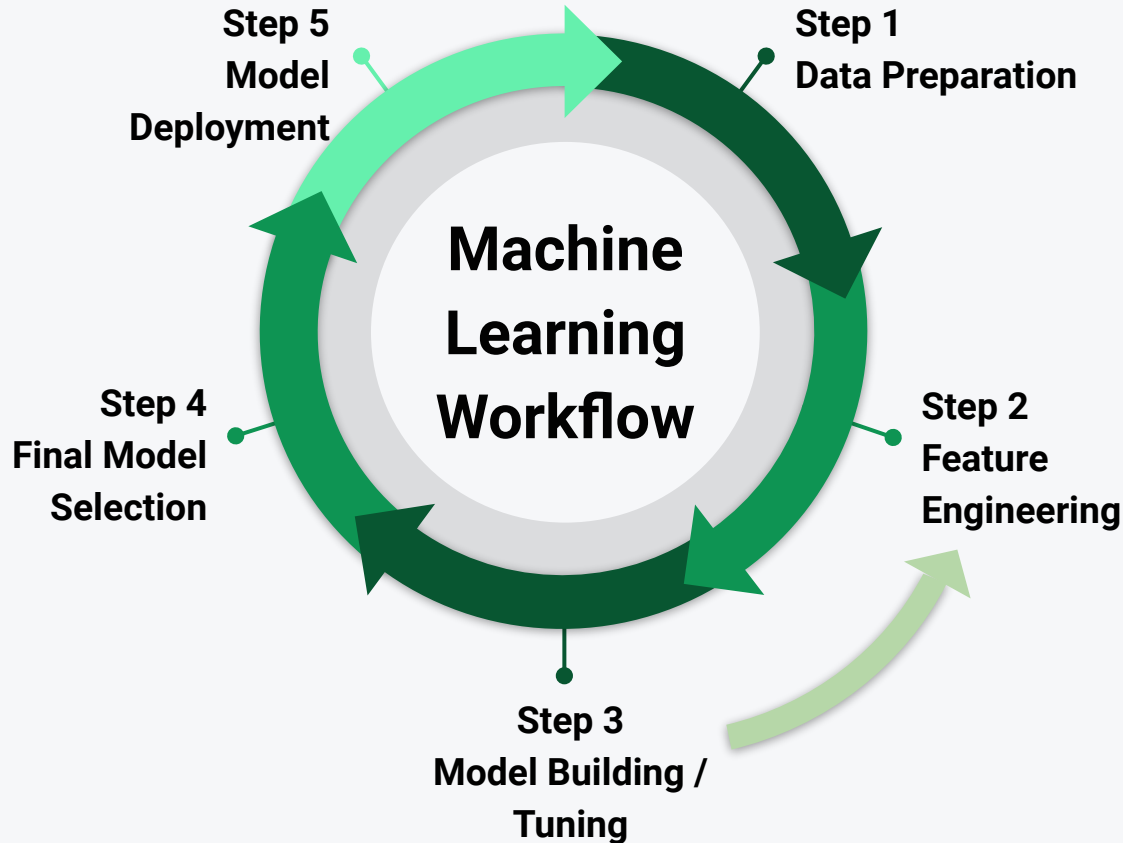
Machine Learning



DS, AI, ML & DL?



Data Science Workflow



Example – Bitcoin Price Prediction



Notebooks



- Data Preparation
- Data Exploration
- Time Series Forecasting
- Feature Engineering & Modeling

Next Steps



- Play with the notebooks
 - Try for different cryptocurrencies
 - Try different modeling methods
 - Try creating more features
- Kaggle competition
 - <https://www.kaggle.com/c/g-research-crypto-forecasting>



We're done!

Thank you for
participating.
Have a great day
ahead.